Q1.   Jerry is making some shelves.
          He needs
                    5 pieces of wood of length 65 cm
                    2 pieces of wood of length 110 cm.

The wood is sold in three different lengths.
Information about these lengths is shown in the table.

Length	Cost
100 cm	£21
150 cm	£25
180 cm	£28

Jerry wants to pay as little money as possible.
How much will Jerry have to pay?

You must show your working.

(Total 4 marks)

Q2.   Mr Morris is going to take his family to the zoo.

Ticket prices (per person)	
Adult	£16.50
Child (3 – 14)	£13.50
Child (under 3)	free

Mr Morris wants to buy tickets for two adults and two children aged 2 and 4

(a)   How much in total will the tickets cost?

£ ....

(2)

Mr Morris pays with three £20 notes.

(b)   How much change should he get?

£ ....

(2)
(Total 4 marks)

Q3.   The table gives information about the prices and the features of five mobile phones.

The ticks (✔) in the table show the features of each phone.

Mobile phone	Price	Feature			
		Camera	**MP3**	**FM Radio**	**Video**
Astra	£24.97	✔			
Crystal	£24.97	✔			✔
Pixar	£39.97	✔	✔	✔	
Spark	£34.23	✔		✔	✔
Tacco	£34.97	✔	✔	✔	✔

(a)   Which of the five mobile phones is the most expensive?

....

(1)

(b)   Which of the mobile phones have MP3?

....

(1)

(c)   Which mobile phone has Video but **not** FM Radio?

....

(1)

Mirza has a monthly plan for his mobile phone.
Each month, he pays a total of £9.79 plus the cost of any extra minutes.

> **Monthly Plan**
>
> For **£9.79** per month you get:
>
> 100 minutes and unlimited texts.
>
> Extra minutes: 24.5p each

Last month, Mirza used 112 minutes.

(d)   Work out how much he paid in total last month.

£ ....

(4)
(Total 7 marks)

Q4.   Comp Parts and Z Parts both sell memory sticks.

| Comp Parts	Z Parts
Memory sticks £4 each	Memory sticks
1 free stick for every 10 sticks bought	£35 for a box of 10 sticks

There are 150 students in Year 10 in a school.
A teacher needs to buy a memory stick for each student.

At which of the shops should he buy the memory sticks?
You must show all your working.

(Total 5 marks)

Q5.   Barbara goes on holiday to Prague. The currency in Prague is the Koruna (KC).

This graph can be used to convert between £ (pounds) and KC (Koruna).
The exchange rate is £1 = 30 KC.
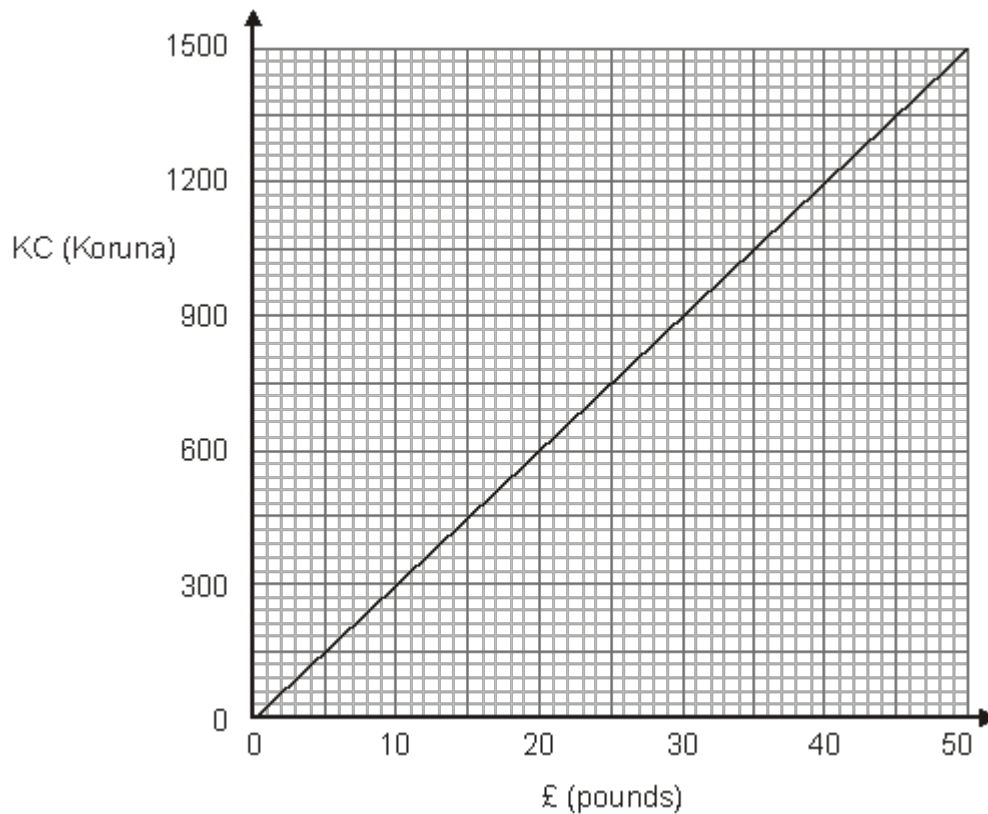
Barbara bought some things in London.
She saw the same things on sale in Prague.

The table shows the cost in £ (pounds) and the cost in KC (Koruna).

Item	Cost in London £ (pounds)	Cost in Prague KC (Koruna)
Headphones	£15	450 KC
Suitcase	£34	750 KC
Music player	£26	810 KC

Barbara thinks the total cost of these things was more in London than in Prague.

Is she correct?
Give a reason for your answer.
You must show all your working.

(Total 5 marks)

Q6.   Yusuf is planning a disco party at his Youth Club.
           Here are his costs.

Mobile Disco	£230
Hire of room	£150
Other costs	£30
Food	£12 per person

Yusuf charges £16 per ticket.
He sells 100 tickets.

Is there enough money from the ticket sales for Yusuf to pay all his costs?
You must show your working.

(Total 4 marks)

M1.

Working	Answer	Mark	Additional Guidance
65 + 110 = 175 65 + 65 = 130 2 × 28 + 25 + 21	£102	4	**M1** for some idea of putting lengths together 65 + 65 oe or 65 + 110 oe seen, or finding the total length of wood eg 65 × 5 + 220 (= 545) or 7 pieces of wood from which those needed can be cut **C1** for a combination of lengths of wood that will allow all lengths to be cut, for example, 2 lengths of 1.8m, 1 length of 1.5m, 1 length of 1m **C1** ft for clearly showing a combination of allowed prices for their chosen lengths eg 2 × 28 + 25 + 21 **A1** cao
			Total for Question: 4 marks

M2.

	Working	Answer	Mark	Additional Guidance
(a)	2 × 16.50 + 13.50	46.50	2	**M1** for 2 × 16.50 + 13.50 **A1** cao
(b)	3 × 20 – "46.50"	13.50	2	**M1** for 3 × 20 – "46.50" **A1** ft
				Total for Question: 4 marks

M3.

	Answer	Mark	Additional Guidance
(a)	Pixar	1	**B1** cao
(b)	Pixar, Tacco	1	**B1** cao
(c)	Crystal	1	**B1** cao
(d)	12.73	4	**M1** for 112-100 or 12 seen **M1** for $24.5 \times '12'$ or sight of digits 294. Do not allow '12' to be 100. **M1** (dep on one prior M1) for $9.79 + '2.94'$ **A1** cao
			Total for Question: 7 marks

M4.

Working	Answer	Mark	Additional Guidance
Zparts: 150 is 15 boxes; 15 × £35 = £525 CompParts: 150 ÷ 11 is 13.6 so 13 offers (150 – 13) × £4 = 137 × 4 = £548 OR 13 × 11 = 143; 150 – 143 = 7 extra (13 × 10 + 7) = 137; 137 × 4 = £548 OR 150 × 4 = £600 13 offers so 13 free: 13 × 4 = 52; 600 – 52 = £548	Zparts £525 CompParts £548 so Zparts cheaper	5	**M1** for 15 × £35 (= £525) **M1** for attempt to account for 1 free (eg ÷ 11 or listing with 10 charged and one not) **M1** for ×4 (may be shown as ×40) **A1** for totals of £548 and £525 OR unit costs of £3.64/£3.63 and £3.50 (oe) **C1** (dep on at least **M1**) for making comparison figures clear and giving correct deduction.
			Total for Question: 5 marks

M5.

Working	Answer	Mark	Additional Guidance
London: 　£15,　£34,　£26 (£75) → 450, 1020, 780 (2250) KC Prague: 　450, 750, 810 KC (2010KC) → £15, £25, £27 (£67) £ to KC is × 30; KC to £ is ÷ 30.	Yes. Cheaper in Prague (More in London)	5	**M1** conversion method (× or ÷ as appropriate) or evidence of use of graph (seen, or implied, by at least lines or evidence of conversion by marks on axes) for at least one figure. **M1** (dep) conversion applied to 3 figures or totals (converted figures must be stated, marks on graph insufficient) **A1** converted figures shown (all three individual items or totals converted correctly; NB: no tolerance on graph) **M1** totalling converted amounts **C1** (dep on at least **M1**) comparison of "**totals"** and correct conclusion Eg "2250KC" > "2010KC", "£75" > "£67" so cheaper to buy in Prague.
			Total for Question: 5 marks

M6.

Working	Answer	Mark	Additional Guidance
Ticket sales: 16 × 100 = £1600 Meals: 12 × 100 = 1200 Fixed costs: 230 + 150 + 30 = 410; 410 + 1200 = 1610 or 1600 – 230 – 150 – 30 = 1190; 1190 – 1200 = –10 Total 410 + 1200 = £1610 (< £1600) OR £1610 ÷ 100 = £16.10 ticket price	No. £1610 >£1600 £410 >£400	4	**M1** for addition of 230, 150, 30 (or + 410) (= 422 or 800) **M1** for 12 × 100 (= 1200) **A1** for £1610 total costs or £16.10 ticket price needed. **C1** (dep on at least **M1**) for correct comparison and statement that "£1610" > "£1600" and that costs will not be covered. OR **M1** for subtraction of 230, 150, 30 (or – 410)

(> £16) OR £1600 – 410 – 1200 = – £10 (or £10 needed) OR £1600 – 1200 = £400 (< £410 costs)		**M1** for 12 × 100 (= 1200) **A1** for £400 left or – £10 **C1** (dep on at least **M1**) for correct comparison and statement that "£410" > "£400" and that costs will not be covered.
		Total for Question: 4 marks

##

The star on the question numbers means this is a question in which we are assessing the Quality of Written Communication (QWC). Not only did candidates need to show their working, but without an answer line they also needed to make clear their answer. It was surprising to find how few candidates were unable to produce a sequence of calculations leading to an amount. Very rarely did a candidate consider putting the pieces of wood together, for example buying a 150 cm length for two 65 cm pieces, rather than two 110 cm, thereby saving money. Rather the common approach was to go for one length selected from the table for each piece required, usually five 100 cm lengths and two 150 cm lengths though it was not uncommon to find seven 180 cm lengths being bought. A minority concentrated on the lengths rather than finding prices. This was a question in which poor arithmetic let many candidates down. The space on the page was fully utilised by many, but candidates need to be aware that examiners are more likely to award method marks when they can identify logical working that is well organised on the page. Disorganised work, or a failure to identify important information in their answer will lose them marks.

##

Whilst most candidates realised that one of the children had to go free, too many only accounted for one of the adults in their calculations. Summation was sometimes hampered by poor arithmetic. More marks were gained in part (b) where the marks were given for subtraction of their total from 60. This is an example of a question where candidates need to absorb the information given, choose which information is needed, and ignore the rest. Candidates need to relate the question to the table.

##

Parts (a), (b) and (c) of this question were well answered with many candidates scoring all three marks.

In part (d) candidates usually made an attempt at this question, very few were left blank. Even though the majority of candidates are likely to own a mobile phone, it was interesting to see how many produced monthly bills with no attempt made to correct the amount or check the calculation.

Of the candidates who attempted this question the majority gained 3 marks for the digits 294 + 9.79, however, very few candidates converted the 24.5p (or '2.94') to £s. Candidates were not using a calculator to work out the 24.5 × '12' and so errors were often made when they were adding leading to erroneous answers of £2.94, £29.4, £294, £303.79 or £39.19 1.2.3

##

Working in this question was frequently disorganised. A significant number started badly

because they multiplied 35 by 150 rather than 15. The greatest problem was that candidates seemed to have no idea how to allow for the free stick for every ten bought; most candidates ignored this and found the cost of 150 at £4. Others decided that if buying 150 sticks then 15 of these would be free, so they found the cost of 135. To gain the final mark for the comparison examiners had to be sure which two numbers were being compared by the candidate; in many cases this was not clear.

##

Candidates could either use the graph or the given rate for conversion. Most preferred to use the rate, though poor arithmetical process when multiplying or dividing by 30 again spoilt many answers. The question asked for total costs to be compared, so candidates who only compared the costs of individual items could not gain the full marks. Those usually the graph sometimes made errors in reading off the values from the scale, even though these led to exact values. Examiners had difficulty in awarding marks where presentation was poor, and it was difficult to isolate sound working as evidence for the award of method marks.

##

It was encouraging to see many attempts at this question, which usually started with the addition of three of the costs. Misreading of the question resulted in many adding in the food cost as a single item, without multiplying out to give 1200 first. As a result 1600 was usually compared with 422 rather than 1600 with 1612. This final mark was a QWC mark for written communication: candidates had to compare their two figures and come to a stated conclusion. Those who did so with clarity gained the mark, even if the two figures they were comparing were wrong, though the two figures needed to be clearly stated. Figures merely given without a comparative statement failed to gain the mark. The most significant weakness in this question was the inability of many candidates to multiply by 100 efficiently. Many times were grid methods seen, or long lists of repeated addition, both of these usually with errors.